

The logo of the School District of Hatboro-Horsham is a shield-shaped emblem. It features a large, stylized 'H' in the center. The left vertical bar of the 'H' is red with the word 'HATBORO' written vertically in white. The right vertical bar is blue with the word 'HORSHAM' written vertically in white. A diagonal band of red and blue stripes runs from the top left to the bottom right across the 'H'. Above the 'H' is a grey silhouette of a sailing ship. The entire logo is set against a yellow background.

# **School District of Hatboro-Horsham**

## **Scientific Inquiry Through Nature**

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# 5<sup>th</sup> Grade Technology Integrated Curriculum





# Ultimate Goal for student learning

“It is important to preserve earth’s natural environment”



# Rationale

- ✿ The Nature Center allows the opportunity to create a real life problem for the students to solve
- ✿ There is no one right or wrong answer – a series of inferences and a final recommendation
- ✿ Project helps develop scientific inquiry skills in conjunction with technology skills



# Outline of Project Units

## ✧ Essential Question:

- ✧ Why is it important to preserve earth's natural environment?

## ✧ Topical Questions:

- ✧ What are the characteristics of each ecosystem?
- ✧ How do the living and nonliving parts within one ecosystem work together?
- ✧ What would happen if this ecosystem was bulldozed?
- ✧ Why is it important to preserve the JNC?



# Essential Question

Why is it important to preserve earth's natural environment?

**JNC Webquest – Year long student resource guide**

 Anticipatory Set

 Video created with a JNC Expert who is one of its founders

# Topical Question 1:

What are the characteristics of each ecosystem?

- ✿ Guided Research

- ✿ Student Blog

- ✿ Classroom observation activity

- ✿ What is an ecosystem activity

- ✿ Introduction to Nova computers and accessories

- ✿ First Field Trip

- ✿ Picture and description log

- ✿ Photostory Development

# Topical Question 2

How do the living and nonliving parts within one ecosystem work together?



## ✿ Guided Research Continuation

- ✿ Library research on one living thing from an ecosystem of the JNC
- ✿ Technology class research on same ecosystem related to Library research
- ✿ Second Field Trip to collect pictures, sound files, and artifacts related to researched ecosystem



# Topical Question 3

What would happen if this ecosystem was bulldozed?

- ✿ Inferences drawn from all of prior research – understanding need for biodiversity
- ✿ Creates basis for presentation of their position for Topical Question 4 (necessity to preserve the JNC)

# Topical Question 4

Why is it important to preserve the JNC?

- ✿ Persuasive letter to be written to Horsham Township Commissioner

- ✿ Creation of webpage in Microsoft Word displaying all of year's projects

  - ✿ Ecosystem Characteristics

  - ✿ My Ecosystem

  - ✿ Field Guide from Library research

  - ✿ Inferences Drawn from research

  - ✿ Persuasive letter to Township Commissioner



# PA Dept of Education Standards

## **Nature of Science – Reasoning and Analysis**

S4.A.1.3.4 Explain what happens to a living organism when its food supply, access to water, shelter, or space is changed (e.g., they might die, migrate, change behavior, eat something else) (Librarian project: what are its needs)

## **Biological Sciences – Ecological Behavior and Systems**

S4.B.3.2.1 Describe what happens to a living thing when its habitat is changed.

S4.B.3.2.2 Describe and predict how changes in the environment (e.g., fire, pollution, flood, building dams) can affect systems.

S4.B.3.1.1 Describe the living and nonliving components of a local ecosystem (e.g., lentic (still water) and lotic (flowing water) systems, forest, cornfield, grasslands, city park or playground)

S4.B.3.1.2 Describe interactions between living and nonliving components (e.g., plants – water, soil, sunlight, carbon dioxide, temperature; animals – food, water, shelter, oxygen, temperature) of a local ecosystem.

## **Reading, Writing, Speaking and Listening**

1.4.5 Types of Writing - Write persuasive pieces with a clearly stated position or opinion and supporting detail, citing sources when needed.

# NETS Technology Standards

## **1. Creativity and Innovation**

Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

## **2. Communication and Collaboration**

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

## **3. Research and Information Fluency**

Students apply digital tools to gather, evaluate, and use information.

## **4. Critical Thinking, Problem Solving, and Decision Making**

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

## **5. Digital Citizenship**

Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

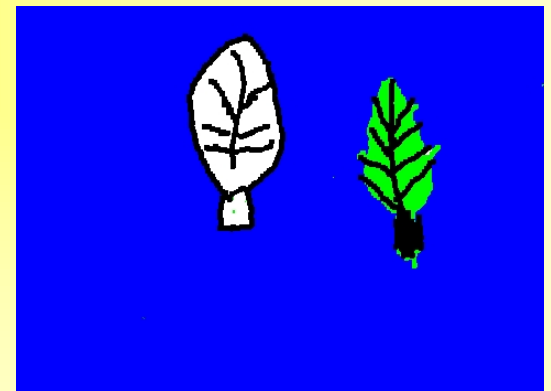
## **6. Technology Operations and Concepts**

Students demonstrate a sound understanding of technology concepts, systems, and operations.



# 5th Grade

## Student NovaPaint Samples



# 5th Grade Student Picture Samples

